

UDC 582.632.1 : 581.9(497,5)=20
Original scientific paperPRESENT DISTRIBUTION OF THE PUBESCENT BIRCH (*BETULA PUBESCENS* EHRH., *BETULACEAE*) IN CROATIA

JOSIP FRANJIĆ

(Faculty of Forestry, University of Zagreb)

Received December 15, 1994

The latest floristic investigations have confirmed the existence of the pubescent birch (*Betula pubescens* Ehrh.) in the region of Samoborsko gorje. There, a small number of specimens of pubescent birch grows on the steep slopes of the hill built of silicate rocks (conglomerates) immediately above Ludvić-potok.

Introduction

The genus *Betula* comprises, as it is known, about 40 (-60) species, spread over the northern hemisphere (comp. Ascherson & Graebner 1908-1913, Melchior 1964, Herman 1971, Mitchell 1974, Jalas & Suominen 1976, Jovanović 1982, Vukičević 1982), of which in the Croatian flora only two species are represented, namely-silver birch (*B. pendula* Roth) and pubescent birch (*B. pubescens* Ehrh.), (comp. Pevalšek 1924, Zlatarić 1950, Fukarek 1957, Trinajstić 1974, Kajba 1993, 1994, Domac 1994).

Unlike the silver birch which is generally spread in Croatia, the largest surfaces occupied by it being on Papuk, Psunj, Bilogora, Kalnik, in Banovina, Kordun, Gorski kotar and Lika, the number of habitats of the pubescent birch is very small and limited to the continental part of Croatia (Fig. 1) where it grows in a small number of specimens only.

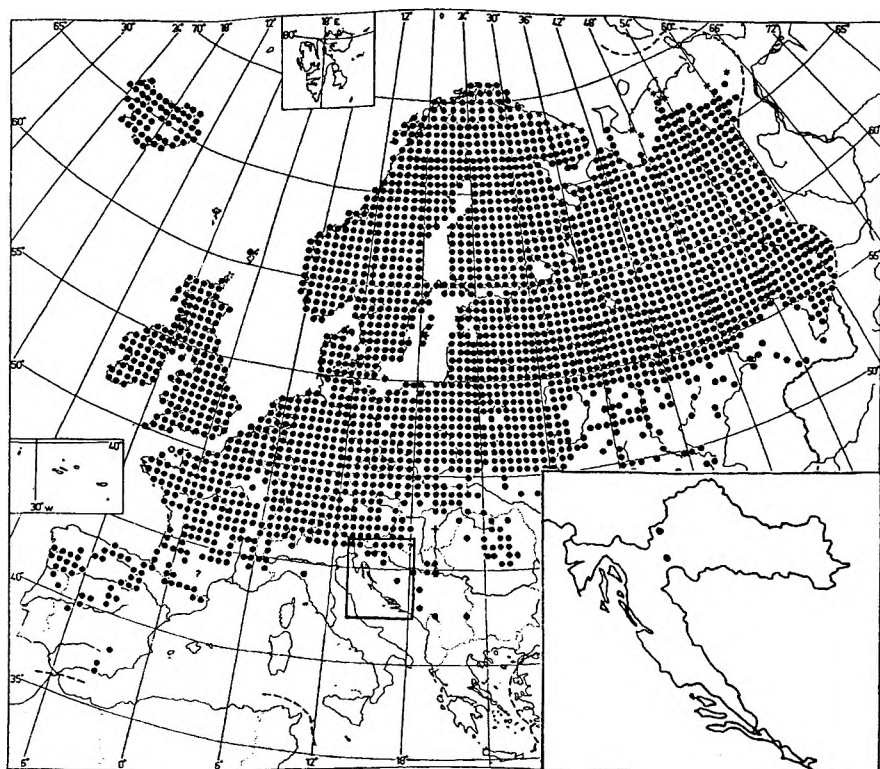


Fig. 1. Distribution of the species *Betula pubescens* Ehrh. in Europe (Jalas & Suominen 1976) and in Croatia

Present situation regarding the distribution of the pubescent birch in Croatia and discussion

The pubescent birch was reported for the Croatian flora already by Neilreich (1868) and Schlosser & Vukotinović (1869, 1876) from several localities in Zagorje as well as in the surroundings of Samobor and Karlovac, but because these reports were not confirmed later, Hirc (1904) expressed his doubts as to their authenticity (comp. Zlatarić 1950, Fukarek 1957). Thus, *B. pubescens* had been "deleted" from the Croatian flora until the time when Pevalek (1924) in his floristic research into the moor in Blatuša near Topusko discovered a new locality of the pubescent birch. There, the silver birch, which grows close around the moor entered the space occupied by this community and in that part Pevalek found the hybrid *Betula x blatušae* Pevalek (= *B. pendula* Roth x *B. pubescens* f. *blatušae* Pevalek), (comp. Pevalek 1924, Kajba 1994).

The other more important locality of the pubescent birch was discovered on the steep slopes of the hill built of silicate rocks (conglomerates) immediately above Ludvič-potok, below the village of Gradišće (Fig. 2). In this way, the allegations published 125 years ago by Neilreich (1868) and Schlosser & Vukotinović (1869, 1876) have been confirmed after all. Since in Croatia there is, generally, a small number of localities in which the pubescent birch could grow, it can hardly be expected that the pubescent birch could

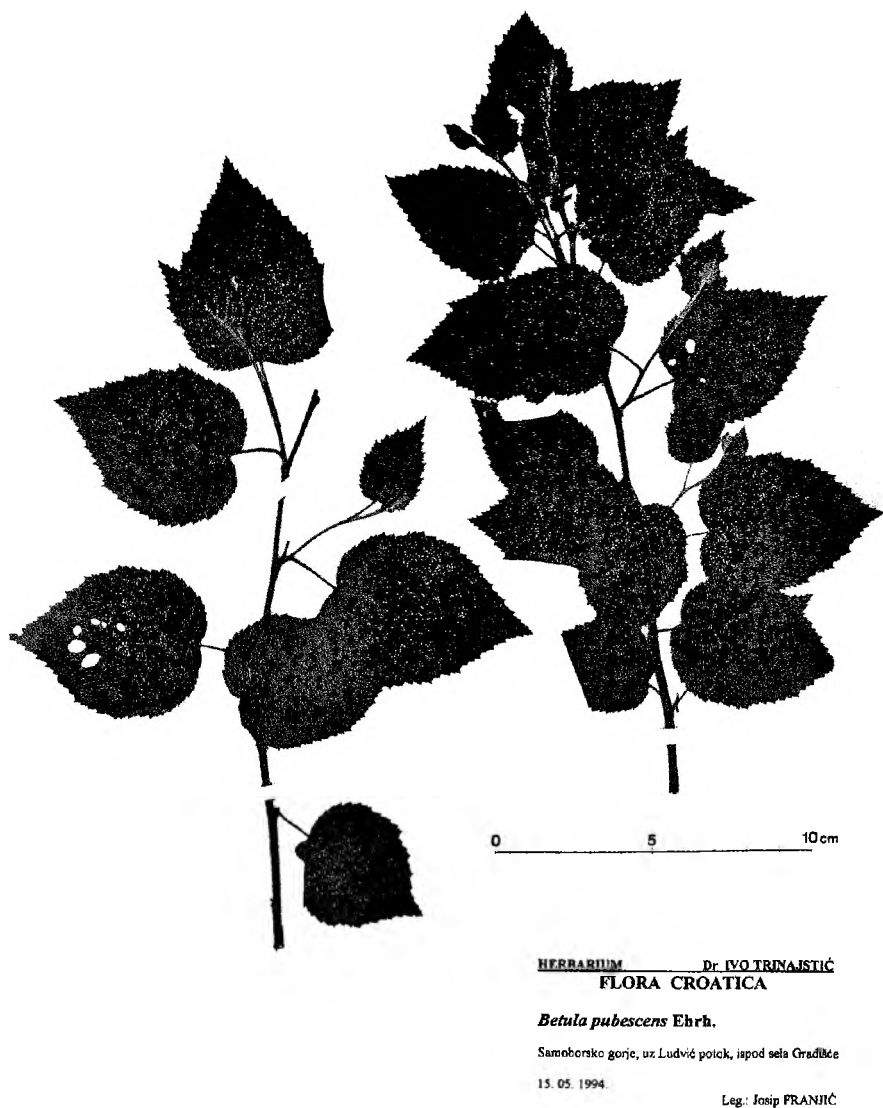


Fig. 2. Pubescent birch (*Betula pubescens* Ehrh.) from Samoborsko gorje

expand or be discovered on some other unknown localities. Having in view that the pubescent birch, as a glacial relict, has a very small area of spreading in Croatia, every new evidence of its occurrence presents a very small important piece of information. Since here it is on the southern boundary of its range and having in view that it grows on a certain kind of stands (peat-bogs), it belongs to the category of "very endangered species" of the Croatian flora (comp. Lovašen-Eberhardt 1994).

The habitats on which the pubescent birch grows are themselves seriously endangered due both to the peat exploitation and to the soil improvement operations in these regions.

As the pubescent birch is very sensitive to the variations of ecological factors (soil and humidity) and because of its relatively feeble vitality (Lovašen-Eberhardt 1994), protection of the pubescent birch is rather difficult and the risk of its overall disappearance from the Croatian flora, unfortunately, very realistic.

Conclusion

The pubescent birch (*Betula pubescens*) has a very small number of localities limited to the continental part of Croatia where it grows in a rather small number of specimens. The latest investigations have confirmed the presence of the pubescent birch in the region of Samoborsko gorje. There, the pubescent birch grows in a small number of specimens on the steep slopes of the hill built of silicate rocks (conglomerates) immediately above Ludvić-potok, below the village of Gradišće.

References

- Ascherson, P., P. Graebner, 1908-1913: *Betula*. Syn. Mitteleur. Flora 4, 402-405.
- Domac, R., 1994: Flora Hrvatske, priručnik za određivanje bilja. Školska knjiga. Zagreb.
- Fukarek, P., 1957: Da li je cretna breza (*Betula pubescens* Ehrh.) raširena i na području Bosne i Hercegovine? Narodni šumar 11 (1-3), 31-39.
- Herman, J., 1971: Šumarska dendrologija. Zagreb.
- Hirc, D., 1904: Revizija hrvatske flore. Rad Jugosl. akad., Zagreb 158, 171-221.
- Jalas, I., I. Suominen (eds.) 1976: Atlas florae Europaeae 3. Helsinki.
- Jovanović, B., 1982: Dendrologija. Beograd.
- Kajba, D., 1993: Mogućnosti kloniranja obične breze (*Betula pendula* Roth) i crne johe (*Alnus glutinosa* (L.) Gaertn.). Glas. šum. pokuse 29, 39-76.
- Kajba, D., 1994: Neke karakteristike hibrida *Betula* x *blatušae* ("Blatušae") Pevalek, corr. (= *B. pendula* Roth x *B. pubescens* f. *Blatušae* Pevalek). Simpozij - Pevalek 49-56. Zagreb.
- Lovašen-Eberhardt, Ž., 1994: *Betula pubescens* Ehrh. In: I. Šugar (ed.): Crvena knjiga biljnih vrsta Republike Hrvatske, 66-67. Ministarstvo graditeljstva i zaštite okoliša - Zavod za zaštitu prirode. Zagreb.

- Melchior, H., 1964: A. Engler's . Syllabus der Pflanzenfamilien. Berlin-Nikolassee.
 Mitchell; A., 1974: A field guide to the trees of Britain and Northern Europe. London.
 Neilreich, A., 1868: Vegetationsverhältnisse von Croatien. Hrsg. Zool.-bot. Ges. Wien.
 Pevalek, I., 1924: Prilog poznavanju naših breza. Farmaceutski vjesnik 14, 662-665.
 Schlosser J. C., Lj. Vukotinović, 1869: Flora Croatica: Zagrabiae.
 Schlosser, J. C., Lj. Vukotinović, 1876: Bilinar. Flora excursoria. Zagreb.
 Trinajstić, I., 1974: Rod *Betula* L. In: I. Trinajstić (ed.): Anatička flora Jugoslavije 1(3), 482-484. Zagreb.
 Vukičević, E., 1982: Dekorativna dendrologija. Beograd.
 Zlatarić; B., 1950: Još jedan podatak o rasprostranjenju breze cretuše (*Betula pubescens* Ehrh.) kod nas. God. Biol. inst. Sarajevo. 3(1-2), 87-92.

S A Ž E T A K

DANAŠNJE STANJE RASPROSTRANJENOSTI CRETNE BREZE (*BETULA PUBESCENS* EHRH., *BETULACEAE*) U HRVATSKOJ

Josip Franjić

(Šumarski fakultet Sveučilišta u Zagrebu)

Cretna breza (*Betula pubescens*) ima vrlo mali broj nalazišta ograničenih na kontinentalni dio Hrvatske, a i na njima raste u vrlo malome broju primjeraka. Najnovijim florističkim istraživanjima potvrđena je prisutnost cretna breze na području Samoborskoga gorja. Tu ona u malome broju primjeraka raste na strmim padinama brežuljka građenog od silikatnih stijena (konglomerata) neposredno iznad Ludvić potoka, ispod sela Gradišće.

Dr. sc. Josip FRANJIĆ

Šumarski fakultet

Svetošimunska 25

HR-10000 Zagreb, Hrvatska (Croatia)